

NATIONAL TRANSPORTATION SAFETY BOARD
Vehicle Recorders Division
Washington, D.C. 20594

March 15, 2004

Cockpit Voice Recorder

Factual Report
by Joseph A. Gregor

A. ACCIDENT

Location: Tillamook Inlet, Oregon
Date: June 14, 2003
Time: 0715 Pacific Daylight Time (PDT)
Vehicle: SPV Taki-Tooo
NTSB Number: DCA03MM035

B. GROUP – No Group

C. SUMMARY

A Furuno model 1833C/NT Radar/Chart Plotter (Type RDP-139, S/N 4312-1096) was delivered to the recorder laboratory at the National Transportation Safety Board on April 30, 2001. The Radar/Chart Plotter was non-operational due to salt-water damage and contained no useful information. No group was convened.

D. DETAILS OF INVESTIGATION

The exterior of the device showed no evidence of structural damage. The interior of the Radar/Chart Plotter was encrusted with salt.

The Furuno 1833C/NT Radar/Chart Plotter is designed to display navigational data acquired from an integrated on-board radar and an optional GPS/WAAS Receiver. Recent position and track information is stored in a volatile semiconductor memory for as long as power is applied to the device. An on-board battery is permanently installed within the unit in order to maintain data integrity while the unit is disconnected from the

main power. Metallic connections between the on-board battery and the printed circuit card containing the semiconductor memory elements was found completely corroded through. The on-board battery was found to be totally discharged. The unit was sent to Furuno USA, Inc. to assess the potential for data recovery, but no data was found stored in memory elements due to loss of electrical power.



Figure 1. Interior back cover of Furuno 1833C/NT Radar/Chart Plotter. The white residue is salt precipitate.



Figure 2. Main circuit board for the Furuno 1833C/NT Radar/Chart Plotter. The white residue is salt precipitate.

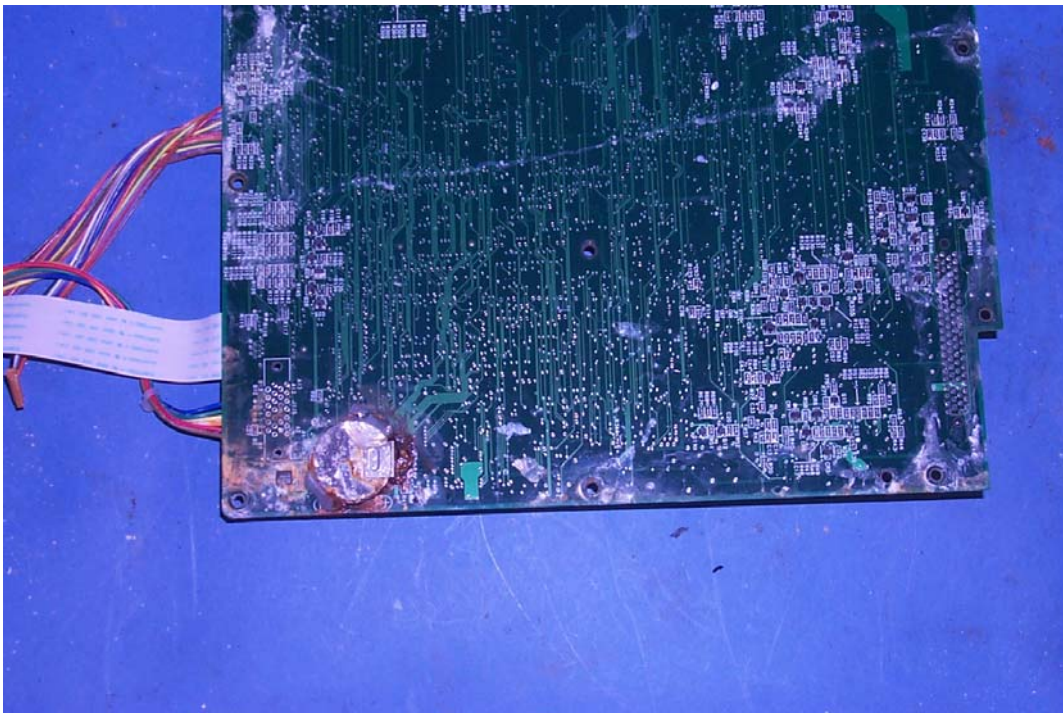


Figure 3. Trace side of main circuit board for the Furuno 1833C/NT Radar/Chart Plotter. The white residue is salt precipitate. The red residue is a corrosion product from the battery.

Joseph A. Gregor
Electrical Engineer